

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): Granular secondary particles of a lithium-manganese composite oxide which are granular secondary particles made up of aggregated crystalline primary particles of a lithium-manganese composite oxide, characterized in that the granular secondary particles have many micrometer-size open voids therein, the open voids having an average diameter in the range of from 0.5 to 3 μm and the total volume of the open voids being in the range of from 3 to 20 vol.% on average based on the total volume of the granular secondary particles.

2. (original): The granular secondary particles of a lithium-manganese composite oxide of claim 1, characterized in that the granular secondary particles have a specific surface area of from 0.2 to 1.0 m^2/g and an average diameter of from 5 to 30 μm , and the crystalline primary particles constituting the granular secondary particles have an average diameter of from 0.5 to 4.0 μm .

3. (original): The granular secondary particles of a lithium-manganese composite oxide of claim 1, which are represented by the compositional formula $\text{Li}_X\text{M}_Y\text{Mn}_{3-X-Y}\text{O}_{4-Z}\text{F}_Z$ (wherein X, Y, and Z are such numbers that $X = 1.0$ to 1.2 , $Y = 0$ to 0.3 , and $Z = 0$ to 0.3 ; and M represents one or more elements selected from Al, Co, Ni, Cr, Fe, and Mg).

4. (original): The granular secondary particles of a lithium-manganese composite oxide of claim 1, characterized in that the content of one or more boric acid compounds contained as an impurity in the granular secondary particles of a lithium-manganese composite oxide is lower than 0.0005 in terms of molar ratio between the manganese and boron (B/Mn) contained in the lithium-manganese composite oxide.

5. (original): The granular secondary particles of a lithium-manganese composite oxide of claim 4, characterized in that the boric acid compounds contained as an impurity are lithium borate and/or lithium sodium borate.

6. (currently amended): A process for producing the granular secondary particles of a lithium-manganese composite oxide of claim 1, characterized by the process comprising pulverizing comprising spray drying a slurry prepared by dispersing a fine powder of a manganese oxide having an average particle diameter of 1 μm or smaller and a fine powder of lithium carbonate having an average particle diameter of 1 μm or smaller or by dispersing a fine powder of a manganese oxide having an average particle diameter of 1 μm or smaller, a fine powder of lithium carbonate having an average particle diameter of 1 μm or smaller, and a compound containing one or more elements selected from Al, Co, Ni, Cr, Fe, and Mg to thereby granulate the slurry and then calcining the granules at a temperature of from 700 to 900°C.

7. (canceled).

8. (previously presented): A process for producing the granular secondary particles of a lithium-manganese composite oxide of claim 1, characterized by comprising spray-drying a slurry prepared by dispersing a fine powder of a manganese oxide, a lithium source, and an agent for open-void formation or by dispersing a fine powder of a manganese oxide, a fine powder of lithium carbonate, a compound containing one or more elements selected from Al, Co, Ni, Cr, Fe, and Mg, and an agent for open-void formation to thereby granulate the slurry and then calcining the granules at a temperature of from 700 to 900°C.

9. (original): The process for producing granular secondary particles of a lithium-manganese composite oxide of claim 8, characterized in that the agent for open-void formation is a substance which has an average particle diameter of 1 μm or smaller and disappears upon heating.

10. (previously presented): The process for producing granular secondary particles of a lithium-manganese composite oxide of claim 6, characterized in that a compound which is a compound of an element other than manganese, lithium, fluorine, aluminum, cobalt, nickel, chromium, iron, and magnesium and is not an agent for open-void formation is added as an additive to the slurry.

11. (original): The process for producing granular secondary particles of a lithium-manganese composite oxide of claim 10, characterized in that the additive is a boron compound, and that the compound is added to the slurry in an amount in the range of from 0.0005 to 0.05 in

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No.: 10/505,141

terms of molar ratio between manganese and boron (B/Mn) and, after the calcining, the boron is removed by water washing to such a degree that the molar ratio (B/Mn) decreases to below 0.0005.

12. (previously presented): A non-aqueous electrolyte secondary battery characterized by employing the granular secondary particles of a lithium-manganese composite oxide of claim 1 as a positive active material.